Documents responsive to request:

- All records of any changes in or revisions to the response plan relating to 40 CFR § 112.20(d)(1)

1.2.6 Date of Storage Start-up

Date of Oil Storage Start-up: 1889

1.2.7 Current Operations (1.2.7.1)

The BP Whiting Refinery is located on approximately 1,700 acres on the southwestern shore of Lake Michigan and the Indiana Harbor Ship Canal in the communities of Whiting, East Chicago and Hammond, Indiana. The Facility receives and ships customer owned bulk liquid commodities in ships, barges, rail cars, and tank trucks through BP owned storage tanks. The refinery processes up to 405,000 barrels of raw crude oil each day and up to 15 million gallons of refined products. It was one of the first refineries to refine low sulfur gas and ultra-low sulfur diesel. The refinery produces about 8% of all asphalt in the U.S. It receives raw crude oil via pipeline from Canada, Gulf of Mexico and West Texas. It ships refined product through pipeline to the entire Midwest. The Facility operates 24 hours per day, 7 days per week.

Landside Directions: From the Chicago O'Hare Airport, Head South on 294 toward Indiana. Exit 80/94 Indiana, going east; exit Indianapolis Blvd. going north to refinery.

Waterside Directions: South side Lake Michigan

Dunn & Bradstreet Number: 00-514-4332
North American Industrial Classification System (NAICS) Code **(1.2.7.2)**: 32411
Products Handled: Asphalt, Gasoline, JP-4, Jet-A, and various other distillates. The Facility maintains a stand-alone full encompassing MSDS reference binder onsite.

Physical Description - Marine Operations

General Operation:

Three (3) barges may be loading/unloading at one time.

Dock Detail

Length:	200 ft.
Construction:	Concrete Piling, Steel Structure
Loading/Unloading Rate:	1,450 Bbls/hr
Draft:	28 ft.

Vessel Detail

Type:	Barge
Tow Quantity:	One (1)
Length:	Maximum 400 ft.
Average Shipment Size:	10,000 - 20,000 Bbls.
Discharging Rates:	Approximately 1,000 Bbls/Hr
Largest Vessel:	65,000 Bbls.

Discharge Prevention:

Each barge transfer at the dock is closely monitored by a tanker man at the dock. An additional operator is placed at the receiving tank when the tank is not capable of holding the entire contents of the vessel. No receipts are taken unless the tank is manually gauged. Radio communication is maintained between the operators to assure a safe product transfer. The dock area is well lighted and operations conducted in this area are in strict accordance with Coast Guard procedures. These procedures are written in the Facility's Dock Operations Manual.

Physical Description – Whiting Terminal

Description of Operation:

The Facility is equipped with numerous loading areas which handle chemicals and oil products. The loading/unloading operations are conducted on a 24 hour, 5 day/week basis and on weekends on a per need basis.

1.2.7 Current Operations (Cont'd)

Loading Rate: 857 bbl/hr/loading arm
Truck Capacity: 9,000 gallons (maximum)

Discharge Prevention:
All transfer areas drain through the Facility drainage system to an oil/water separator system.

Overfill shut-down protection prevents spillage.
Safe operating procedures are posted.

Physical Description – Rail Tank Car
Description of Operation:
The Facility loads rail tank cars at three (3) locations; Molten Sulfur, Sulfuric Acid, Pet Coke, and Catalyst

Molten Sulfur
Rail – 6 loading areas
Truck – 2 loading areas

Sulfuric Acid
Rail – 1 loading and 4 unloading areas

Pet Coke
Rail – loading out of service

Catalyst
Rail – 2 unloading areas

Physical Description – Pipeline
All of the crude oil received and the majority of the refined products shipped from the refinery are moved by pipeline. Eleven pipelines service the refinery carrying a variety of products.

List of pipeline companies that service the refinery, the products group, and the maximum transfer rate:

BP Products

Pipeline	Oil Group	Transfer Rate (bbl/hr)
Dubuque	I	3,000
Indianapolis	I	3,100
River Rouge	I	3,100
White Oak	I	4,100
Decatur	I	1,00o0
#1	II and III	10,400
#2	II and III	8,500
West Shore	I	8,000
Badger	I	5,500
Buckeye	I	1,800
Enron	I	1,500

Discharge Prevention:
Most pipelines within the Facility are contained within pipe alleys or are located in areas where a spill could be diverted into a process sewer.

1.2.8 Dates and Types of Substantial Expansion

1889	Initial Construction
1910	Construction of Grease Works
1922	Construction of Tank Field - Stieglitz Tank Field
1923	Construction of Tank Field - Indiana Tank Field
1924	Construction of Tank Field - South Tank Field
1926	Utilities Tanks Construction
1928	Construction of #1 Powerhouse
1932	Construction of Tank Field - Lake George Tank Field
1935	Construction of Propane Deasphalting
1944	Expansion of Tank Field - Indiana Tank Field
1945	Process Unit Construction - Fluidized Catalytic Cracking Unit (FCU) 500
1946	Process Unit Construction - FCU 600
1946	Construction of #37 Pipe Still
1946	Construction of #1 Propane Dewaxing Unit
1946	Construction of #1 Phenol Extraction Unit
1946	Construction of #2 MEK Dewaxing and Deoiling Unit
1946	Construction of #3 Barrel House
1948	Construction of #3 Powerhouse
1951	Construction of Tank Field - Boat Docks Tank Field
1950s	Process Unit Construction - No. 3 Ultraformer
1550s	Process Unit Construction - No. 4 Ultraformer
1956	Process Unit Construction - No. 11 (Crude & Coking) Pipe Still
1956	Construction of Tank Field - J&L Shipping Tank Field
1957	Construction of Tank Field - Berry Lake Tank Field
1959	Process Unit Construction - No. 12 (Crude) Pipe Still
1961	Process Unit Construction - Alkylation Unit
1962	Expansion of Tank Field - South Tank Field
1971	Process Unit Construction - Sulfur Recovery Unit (SRU)
1971	Expansion of Tank Field - Boat Docks Tank Field
1973	Expansion of Tank Field - Stieglitz Tank Field
1974	Process Unit Expansion - No. 11 Pipe Still
1978	Process Unit Construction - Aromatics Recovery Unit (ARU)
1979	Process Unit Expansion - No. 11 Pipe Still
1980	Construction of Tank Field - J&L Crude Tank Field
1981	Process Unit Expansion - SRU
1983	Process Unit Construction - Cat Feed Hydrotreating Unit (CFU)
1985	Process Unit Construction - Isomerization Unit (ISOM)
1989	Process Unit Expansion - Alkylation Unit
1993	Process Unit Construction – Distillate Desulfurizer Unit (DDU)
1995	Process Unit Expansion - SRU
2006	Process Unit Construction – Distillate Hydrotreating Unit (DHT)
2012	Process Unit Construction - NSU
2012	Expansion #3 Powerhouse – NOX project
2014	Construction and completion of 12 PS, Coker 2, GOHT, VRU 400, SRC

Documents responsive to request:

- All records of required response resources for Facility response plans, as per Appendix E to Part 112

1.3.2 Response Equipment List and Location

Date of Last Update: May 2014
MSRC OSRO Response Equipment List
1. Skimmers/Pumps **(1.3.2.1)** - Operational Status: All inspected equipment is operational

FACILITY					
Type, Model, and Year	**Number**	**Capacity gal/min**	**Daily Effective Recovery Rate**	**Storage Location(s)**	**Date Fuel Last Changed**
2" Centrifugal, Homelite (gas drive)/Unk	1	1186 bbl/d	237 bbl/d	Recovery Trailer	
Diaphragm, Wilden Pump (M-15) (air) 3"/Unk	2	230 gal per min (gpm)	46 gpm	Storehouse	
Diaphragm, Wilden Pump (M-8) (air) 2"/Unk	3	686 bbl/d	137 bbl/d	Storehouse	
Megator, L125 (Diesel drive)/Unk	1	686 bbl/d	137 bbl/d	Recovery Trailer	
Asphalt Retrieval Box/Unk	1	N/A	N/A	Boat Docks	
Elastec, TSD-118 (Pneum. Drum)/1994	3	480 bbl/d	96 bbl/d	Recovery Trailer	
Megator, Alpha Skimmer 2"/1994	2	53 gpm	11 gpm	Recovery Trailer	

MSRC - OSRO					
Type, Model, and year	**Number**	**Capacity gal/min**	**Daily Effective Recovery Rate**	**Storage location(s)**	**Date Fuel Last Changed**
Queensboro	1	132	905	Whiting, IN	
GT-185 w Adapter	1	200	1,371	Roxana, IL	
Queensboro	1	132	905	Toledo, OH	

HERITAGE					
Type, Model, and year	**Number**	**Capacity gal/min**	**Daily Effective Recovery Rate**	**Storage location(s)**	**Date Fuel Last Changed**
Elastec Model 136 Drum Skimmer-w/HYD powe pack	1	4 gpm	1-137 dbpd (air)	Chicago, IL	All units are visually inspected once every quarter and started up during the 2nd or 3rd quarters and then drained of fuel following testing of the power units.
Elastec Model 136 Drum Skimmer-w/HYD power pack	1	14 gpm	1-480 dbpd	Gary, IN	All units are visually inspected once every quarter and started up during the 2nd or 3rd quarters and then drained of fuel following testing of the power units.
Elastec Model 136 Drum Skimmer-w/HYD power pack	1	4 gpm	1-137 dbpd	Lemont, IL	All units are visually inspected once every quarter and started up during the 2nd or 3rd quarters and then drained of fuel following testing of the power units.
Elastec Model 136 Drum Skimmer-w/HYD powe pack	1	14 gpm	1-480dpd	Indianapolis, IN	All units are visually inspected once every quarter and started up during the 2nd or 3rd quarters and then drained of fuel following testing of the power units.
Elastec Model 136 Drum Skimmer-w/HYD powe pack	1	4gpm	1-480dbpd 1-137 dbpd (air)	Louisville, KY	All units are visually inspected once every quarter and started up during the 2nd or 3rd quarters and then drained of fuel following testing of the power units.

1.3.2 Response Equipment List and Location (Cont'd)

1. Skimmers/Pumps **(1.3.2.1)** - Operational Status: All inspected equipment is operational (Cont'd)

HERITAGE (Cont'd)					
Type, Model, and year	**Number**	**Capacity gal/min**	**Daily Effective Recovery Rate**	**Storage location(s)**	**Date Fuel Last Changed**
Elastec Model 136 Drum Skimmer-w/HYD power pack	1	14gpm	1-480 dbpd	St. Louis, MO	All units are visually inspected once every quarter and started up during the 2nd or 3rd quarters and then drained of fuel following testing of the power units. Last Test June 2011
Elastec Model 136 Drum Skimmer-w/HYD powe pack	1	4 gpm	1-137 dbpd (air)	Toledo, OH	All units are visually inspected once every quarter and started up during the 2nd or 3rd quarters and then drained of fuel following testing of the power units.

VEOLIA ES SPECIAL SERVICES					
Type, Model, and year	**Number**	**Capacity gal/min**	**Daily Effective Recovery Rate**	**Storage location(s)**	**Date Fuel Last Changed**
Elastec TDS-118 Skimmer	One	35 gpm	240 bbl	Dayton, OH	N/A, air operated
Half-Disk Mantaray Skimmer, 56" w/ 3' coupling	One	80 gpm	549 bbl	Dayton, OH	N/A, vacuum operated
Weir Skimmer- SKIMPAC 4300	One	50	343 bbl	Dayton, OH	N/A, vacuum operated
Weir skimmers- SKIMPAC 4300	Two	50 gpm	686 bbl	Germantown, WI	N/A, vacuum operated
Elastec Magnum 100 Skimmer w/hydraulic power-pack	One	100 gpm	686 bbl	Germantown, WI	Contains fuel for operational testing only
Weir Skimmers - SKIMPAC 4300	Two	50 gpm	686 bbl	Green Bay, WI	N/A, vacuum operated
Hydraulic power packs and pumps	One		N/A	Green Bay, WI	Contains fuel for operational testing only
Elastec TDS-118 Skimmer,	One	35 gpm	240 bbl	Mitchell, IL	N/A, air operated
Elastec TDS-136 Skimmer	One	70 gpm	480 bbl	New Lenox, IL	N/A, air operated
One Power Pack with Three Pumps	One		N/A	Wausau, WI	Contains fuel for operational testing only

NO CO-OP IS PRESENT					
Type, Model, and year	**Number**	**Capacity gal/min**	**Daily Effective Recovery Rate**	**Storage location(s)**	**Date Fuel Last Changed**
NONE					

1.3.2 Response Equipment List and Location (Cont'd)

2. Boom (1.3.2.1) - Operational Status: _____

FACILITY			
Type/ Model	**Year**	**Quantity**	**Size/Length (ft.) Containment Area (sq. ft.)**
Acme, O.K. Corral (ASTM-U)/	1998	750'	6" / Boat Docks
ABBCO (ASTM-U)	2014	2,000	24" / Boom Trailer
Marker Buoy	2014	6	12" / Deployment Trailer
13# Anchor with leader chain	2014	4	Deployment Trailer
18# Anchor with leader chain	2014	4	Deployment Trailer
Anchor Post	1994	6	7' / Deployment Trailer
Towing Bridle	1994	4	Deployment Trailer
PORTABLE CONTAINMENT			
Hydro-seal Pool	1995	4	Deployment Trailer
Oil Recovery Drum (1 bbl)	1995	1	Foam Storage
Over Flow Dam Set	1994	1	Deployment Trailer
Salvage Drum (1 bbl)	1995	1	Foam Storage
Sand		500 yds.	Refinery
265 gallon totes (empty)		5	Foam Storage

MSRC - OSRO				
Type, Model, and year	**Number**	**Size/Length (ft.)**	**Containment Area (sq. ft.)**	**Storage location**
Mark II	1	60	N/A -Recovery only	Whiting, IN
Mark II	1	60	N/A -Recovery only	Roxana, IL
Mark II	1	60	N/A -Recovery only	Toledo, OH

HERITAGE				
Type, Model, and year	**Number**	**Size/Length (ft.)**	**Containment Area (sq. ft.)**	**Storage location**
10" and 4" Float 6" Skirt	9	450'	22,500	Indianapolis, IN
18" and 6" Float 12" Skirt	46 126	4,600; 12,600*	2,350,600 18,060,000	Lemont, IL Lemont, IL
18" and 6" Float 12" Skirt	15	1,500'	250,000	Indianapolis, IN
18" and 6" Float 12" Skirt	7	700	54,367	Louisville, KY
18" and 6" Float 12" Skirt	30	3,000'	1,000,000	St. Louis, MO
18" and 6" Float 12" Skirt	10	1,000	1,000,000	Toledo, OH
21" and 8" Float 13' Skirt	80	8,000	7,109,333	St. Louis, MO
24" and 8" Float 16" Skirt	7	700'	54,366	Gary, IN

VEOLIA ES SPECIAL SERVICES				
Type, Model, and year	**Size**	**Section Length (ft.)**	**Total Length (ft.)**	**Storage location**
Containment Boom	18"	100'	2,200	Dayton, OH
Containment boom	18"	100'	15,400	Germantown, WI
Containment boom	36"	100'	1,000	Germantown, WI
Containment Boom	18"	100'	2,200	Green Bay, WI
Containment Boom	18"	100'	1,000	Mitchell, IL
Containment boom	18"	100'	2,200	New Lenox, IL
Containment boom	18"	100'	100	Sheboygan, WI

1.3.2 Response Equipment List and Location (Cont'd)

2. Boom **(1.3.2.2)** - Operational Status: _____(Cont'd)

NO CO-OP IS PRESENT				
Type, Model, and year	**Number**	**Size/Length (ft.)**	**Containment Area (sq. ft.)**	**Storage location**
NONE				

3. Chemicals Stored (**1.3.2.3** - Dispersants listed on EPA's NCP Product Schedule)

FACILITY				
Type	**Amount**	**Date purchased**	**Treatment capacity**	**Storage location**
NONE				

MSRC - OSRO				
Type	**Amount**	**Date purchased**	**Treatment capacity**	**Storage location**
NONE				

HERITAGE				
Type	**Amount**	**Date purchased**	**Treatment capacity**	**Storage location**
NONE				

VEOLIA ES SPECIAL SERVICES				
Type	**Amount**	**Date purchased**	**Treatment capacity**	**Storage location**
NONE				

NO CO-OP IS PRESENT				
Type	**Amount**	**Date purchased**	**Treatment capacity**	**Storage location**
NONE				

Were appropriate procedures used to receive approval for use of dispersants in accordance with the NCP (40 CFR 300.910) and the Area Contingency Plan (ACP), where applicable? _____ (Y/N).

Name and State of On-Scene Coordinator (OSC) authorizing use: _____

Date Authorized: _____

1.3.2 Response Equipment List and Location (Cont'd)

4. Dispersant Dispensing Equipment (1.3.2.4) - Operational Status: _____

FACILITY			
Type and year	Capacity	Storage location	Response time (minutes)
NONE			

MSRC - OSRO			
Type and year	Capacity	Storage location	Response time (minutes)
BEECHCRAFT KING AIR 90A	425 galls	Stennis, MS	4 hours
BEECHCRAFT KING AIR 90A	425 galls	Salisbury, MD	4 hours
HERCULES C-130	3,250 galls	Stennis, MS	4 hours
HERCULES C-130	3,250 galls	Mesa, AZ	4 hours
BEECHCRAFT KING AIR 90A	425 galls	Concord, CA	4 hours
BEECHCRAFT KING AIR 90A	425 galls	San Juan, PR	4 hours

HERITAGE			
Type and year	Capacity	Storage location	Response time (minutes)
NONE			

VEOLIA ES SPECIAL SERVICES			
Type and year	Capacity	Storage location	Response time (minutes)
NONE			

NO CO-OP IS PRESENT			
Type and year	Capacity	Storage location	Response time (minutes)
NONE			

1.3.2 Response Equipment List and Location (Cont'd)

5. Sorbents **(1.3.2.5)** —Operational Status: _____

FACILITY				
Type/Year	**Amount**	**Size**	**Absorbent Capacity (gal.)**	**Storage Location**
50' Sweeps	50 bales	19" x 50'	7 gals /sweep	Storehouse
100' Sweeps	50 bales	19" x 100'	7 gals /sweep	Storehouse
Absorbent Connecting Booms	50	4" x 10'	--	Storehouse
Oil Dry Bags	20	50#	--	Storehouse
Note: These items are automatically purchased when use requires replacement. An example last inspection date for this equipment is documented in this section.				

MSRC - OSRO				
Type/Year	**Amount**	**Size**	**Absorbent Capacity**	**Storage Location**
NONE	None			

HERITAGE				
Type/Year	**Amount**	**Size**	**Absorbent Capacity**	**Storage Location**
Pads 100/Bale	5	3//8" x 18" x 18"	16 gals/bale	Gary, IN
Pads 100/Bale	150	3//8" x 18" x 18"	16 gals/bale	Lemont, IL
Pads 100/Bale	104	3//8" x 18" x 18"	16 gals/bale	Indianapolis, IN
Pads 100/Bale	83	3//8" x 18" x 18"	16 gals/bale	Louisville, KY
Pads 100/Bale	100	3//8" x 18" x 18"	16 gals/bale	Toledo, OH
Boom 4/bale	5	8" x 10'	65 gals/bale	Gary, IN
Boom 4/bale	150	8" x 10'	65 gals/bale	Lemont, IL
Boom 4/bale	65	8" x 10'	65 gals/bale	Indianapolis, IN
Boom 4/bale	59	8" x 10'	65 gals/bale	Louisville, KY
Boom 4/bale	55	8" x 10'	65 gals/bale	Toledo, OH
Boom 5/box	18	5"X10'	65 gals/bale	Lemont, IL
Sweeps	0	3/16"x 19" x 100'	7 gals /sweep	Gary, IN
Sweeps	100	3/16"x 19" x 100'	7 gals /sweep	Lemont, IL

HERITAGE				
Type/Year	**Amount**	**Size**	**Absorbent Capacity**	**Storage Location**
Sweeps	50	3/16"x 19" x 100'	7 gals /sweep	Indianapolis, IN
Sweeps	71	3/16"x 19" x 100'	7 gals /sweep	Louisville, KY
Sweeps	60	3/16"x 19" x 100'	7 gals /sweep	Toledo, OH
Snares 30/Box	0			Gary, IN
Snares 30/Box	20			Lemont, IL
Snares 30/Box	50			Indianapolis, IN
Snares 30/Box	60			Louisville, KY
Snares 30/Box	50			St. Louis, MO
Snares 30/Box	0			Toledo, OH
Snares 30/Box	50			Tulsa, OK
Snare Sweeps box	0	(50 ft.)		Gary, IN
Snare Sweeps box	150			Lemont, IL
Snare Sweeps box	50			Indianapolis, IN
Snare Sweeps box	60			Louisville, KY
Snare Sweeps box	50			St. Louis, MO
Snare Sweeps box	50			Toledo, OH

1.3.2 Response Equipment List and Location (Cont'd)

5. Sorbents **(1.3.2.5)** - Operational Status: _____ (Cont'd)

Grainger listed absorbency capacity used

VEOLIA ES SPECIAL SERVICES				
Type	**Amount**	**Size**	**Absorbent Capacity**	**Storage Location**
Absorbent boom	2,000 feet	8" x 10'	3,500 gal	Germantown, WI
Absorbent pads	85 bales	17" x 19"	2,550 gal	Germantown, WI
Absorbent boom	1,400 feet	8" x 10'	2,450 gal	Green Bay, WI
Absorbent pad	50 bales	17" x 19"	1,500 gal	Green Bay, WI
Absorbent rolls	13 rolls	32" x 150'	910 gal	Green Bay, WI
Absorbent Boom	600 feet	8" x 10'	1,050 gal	Norway, MI
Absorbent Pads	5 bales	17" x 19"	150 gal	Norway, MI
Absorbent boom	250 feet	8" x 10'	750 gal	Sheboygan, WI
Absorbent pads	10 bales	17" x 19"	300 gal	Sheboygan, WI
Absorbent Boom	500	8" x 10'	840 gal	Wausau, WI
Absorbent Pads	20 bales	17" x 19"	600 gal	Wausau, WI
Absorbent Boom	800 feet	8" x 10'	1,400 gal	Dayton, OH
Absorbent Pads	20 bales	17" x 19"	600 gal	Dayton, OH
Absorbent Boom	400 feet	8" x 10'	700 gal	Mitchell, IL
Absorbent Pads	15 bales	17" x 19"	450 gal	Mitchell, IL
Absorbent Boom	600 feet	8" x 10'	1,050 gal	New Lenox, IL
Absorbent Pads	20 bales	17" x 19"	600 gal	New Lenox, IL

NO CO-OP IS PRESENT				
Type/Year	**Amount**	**Size**	**Absorbent Capacity**	**Storage Location**
NONE				

6. Hand Tools **(1.3.2.6)** —Operational Status: _____

FACILITY			
Type/Model	**Year Purchased**	**Qty.**	**Location**
Spill Trailers and Fire Apparatus' carry a complement of tools necessary for response purposes	Various	Various	

MSRC - OSRO			
Type/Model	**Year Purchased**	**Qty.**	**Location**
OSRO tools necessary for response purposes	Various	Various	

HERITAGE			
Type/Model	**Year Purchased**	**Qty.**	**Location**
OSRO tools necessary for response purposes	Various	Various	

VEOLIA ES SPECIAL SERVICES			
Type/Model	**Year Purchased**	**Qty.**	**Location**
OSRO tools necessary for response purposes	Various	Various	

NO CO-OP IS PRESENT			
Type/Model	**Year Purchased**	**Qty.**	**Location**
OSRO tools necessary for response purposes	Various	Various	

1.3.2 Response Equipment List and Location (Cont'd)

7. Communication Equipment **(1.3.2.7)** (include operating frequency and channel and/or cellular phone numbers) - Operational Status: _____

FACILITY		
Type and year	**Quantity**	**Storage Location/number**
Plant Radios	20	Fire Station/I&E Shop
Marine Band Radio	1	Boat Docks
RSB, 1st Floor Fax	1	RSB, Security
Emergency Operations Center (EOC) Phones	5	RSB, Rm 108
RSB Command Post Fax	1	RSB, Rm 108
Facsimile Machines	1	RSB, Security
Printer	1	RSB, Security/EOC

MSRC - OSRO		
Type and year	**Quantity**	**Storage Location**
Winegard i AutoSat Self-Acquiring Satellite System	1	Trailer
CISCO 7960 IP Phones	4	Small Satellite System
CISCO 7921 Wireless	4	Small Satellite System
CISCO IP phones	10	Trailer
Analog phones	50	Trailer
Wireless handsets	20	Trailer
1.2M satellite dish		Transportable Shipping Containers
25-35 watt VHF Marine and VHF/UHF land mobile		Portable Base Stations
25-35 watt VHF/UHF land mobile repeaters		
Handheld radios	2	
Handheld batteries	4	
Noise cancelling headsets	2	
50' coaxial cable	1	
Intrinsically safe radios	10	
Multi-bank battery charger	1	

HERITAGE		
Type and year	**Quantity**	**Storage Location**
NONE		

VEOLIA ES SPECIAL SERVICES		
Type and year	**Quantity**	**Storage Location**
NONE		

NO CO-OP IS PRESENT		
Type and year	**Quantity**	**Storage Location**
NONE		

1.3.2 Response Equipment List and Location (Cont'd)

8. Fire Fighting and Personnel Protective Equipment **(1.3.2.8)** - Operational Status: _____

FACILITY			
Type/Model	**Year Purchased**	**Qty.**	**Location**
Engine 13 (2000 gpm/1000 gal foam) 3 x 6	1983	1	Foam Storage
Engine 14 (2000 gpm/3000 gal foam) 1 x 3 Thunder	1993	1	Foam Storage
Engine 15 (3000 gpm/1000 gal foam) 3 x 6	1996	1	Central Fire Station
Engine 16 (3500 gpm/1000 gal foam) 3 x 6	2007	1	Central Fire Station
Tower 1 (2000 gpm/750 gal foam/95' foam) 3 x 6	1998	1	Central Fire Station
Terminator Monitor (2000 gpm)	1980	2	Central Fire Station
Universal Gold 1 x 3	2014	30,000	Central Fire Station
Fire Department Utility Trucks	1988	5	Central Fire Station
Rescue/Hazmat 508 (Rescue 2)	1987	1	North Fire Station
Rescue 1 518	2009	1	Central Fire Station
1 hr SCBA	1995	4	Central Fire Station
SCBA	1999	20	Central and N Fire Station
Chest Waders	1994	6 pr	Central Fire Station
Gas Tester	2012	5	Central Fire Station
Level A Suites	2013	10	Central Fire Station
Level B Suits (508)	2013	10	Central Fire Station
Medic One (ambulance)	1998	1	Truck Garage
Medic Two (ambulance)	2008	1	C-Station
Life Jackets	2013	20	Deployment Trailer
High Angel/Confined Space Rescue Equipment (508)	2010	2	Central Fire Station

MSRC - OSRO			
Type/Model	**Year Purchased**	**Qty.**	**Location**
NOT PROVIDED UNDER CONTRACT			

HERITAGE			
Type/Model	**Year Purchased**	**Qty.**	**Location**
NOT PROVIDED UNDER CONTRACT			

VEOLIA ES SPECIAL SERVICES			
Type/Model	**Year Purchased**	**Qty.**	**Location**
NOT PROVIDED UNDER CONTRACT			

NO CO-OP IS PRESENT			
Type/Model	**Year Purchased**	**Qty.**	**Location**
NONE			

1.3.2 Response Equipment List and Location (Cont'd)

9. Other (e.g., Heavy Equipment, Boats and Motors) **(1.3.2.9)** - Operational Status: ____

FACILITY			
Type/Model	**Year Purchased**	**Qty.**	**Storage Location**
15 ton Hydraulic Crane	Unk	1	Transportation Dept.
20 yard Semi-Dump Truck	Unk	1	Transportation Dept.
40 ton Hydraulic Crane	Unk	1	Transportation Dept.
50 ton Hydraulic Crane	Unk	1	Transportation Dept.
Front End Loader	Unk	2	Transportation Dept.
Backhoe	Unk	3	Transportation Dept.
Salt Spreader	Unk	1	Transportation Dept.
Light Towers	Unk	8	Transportation Dept.
18' Steel Hull boat 45 hp on trailer	1997	1	Boat Docks
Boston Whaler 19' 100 hp/trailer	1996	1	North Station
John Boat 19' 75 hp/trailer	1997	1	North Station
Rescue One 25 hp/trailer	1996	1	North Station
21.5' Ribcraft Twin 90 hp/trailer	2009	1	North Station

MSRC - OSRO		
Type and year	**Quantity**	**Storage location**
Shallow Water Barge (non- self-propelled/400 bbl)	1	Whiting, IN
Shallow Water Push Boat (28' Munson)	1	Whiting, IN
Shallow Water Barge (non- self-propelled/400 bbl)	1	Roxana, IL
Shallow Water Push Boat (28' Munson)	1	Roxana, IL
Shallow Water Barge (non- self-propelled/400 bbl)	1	Toledo, OH
Shallow Water Push Boat (28' Munson)		Toledo, OH

HERITAGE			
Type/Model	**Year Purchased**	**Qty.**	**Storage Location**
14' Jon Boat w/6 hp	2008	1	Gary, IN
24' pontoon w/200 hp -JBF Skimmer boat, 50Hp, 14' jon	1993 1998 1998	2 1 1	Lemont, IL
1-10' jon	2005	1	Indianapolis, IN
20' w/50 hp	1998	1	Louisville, KY
24' w/twin 125hp 16' w/25 hp	2007 1998	1 1	St. Louis, MO
24'pontoon w/150 hp 14' jon	1993 1998	1 1	Toledo, OH
Vacuum Trucks (3)	1998 to 2010	5	Lemont, IL
Vacuum Trucks (3)	2002	1	Gary, IN
Vacuum Trucks (3)	1998 to 2010	15	St. Louis, MO
Vacuum Trucks (3)	2007 to 2009	40	Indianapolis, IN
Vacuum Trucks (3)	1998 to 2007	3	Louisville, KY
Vacuum Trucks (3)	1998 to 2005	3	Toledo, OH
H.T. Rolloff Boxes	2000 to 2011 2000 to 2012	12 30*	Lemont, IL
H.T. Rolloff Boxes	1998 to 2010	5	Gary, IN

1.3.2 Response Equipment List and Location (Cont'd)

9. Other (e.g., Heavy Equipment, Boats and Motors) (**1.3.2.9**) - Operational Status: ____(Cont'd)

HERITAGE (Cont'd)			
Type/Model	**Year Purchased**	**Qty.**	**Storage Location**
H.T. Rolloff Boxes	2000 to 2011 2000 to 2012	5 30*	St. Louis, MO
H.T. Rolloff Boxes	1984 to 2012 2000 to 2012	150 30*	Indianapolis, IN
H.T. Rolloff Boxes	2000 to 2012	30*	Louisville, KY
H.T. Rolloff Boxes	2000 2000 to 2012	1 30*	Toledo, OH
HERITAGE Tankers	1998	1	Lemont, IL
HERITAGE Tankers	1979 to 2008	31	Indianapolis, IN
HERITAGE Tankers	1998 to 2005	11	Toledo, OH
HERITAGE Tankers	1990 to 2000	10	Kansas City, MO
Fixed Storage	1979	42 dbbls	Lemont, IL
Fixed Storage	1978 to 2011	6,138 dbbls	Indianapolis, IN
Fixed Storage	1988	1,250 dbbls	Kansas City, MO
Frac Tanks	2008 2000 to 2012	4 20*	Lemont, IL
Frac Tanks	2000 to 2012	10*	Gary, IN
Frac Tanks	2000 to 2012	10*	St. Louis, MO
Frac Tanks	2000 to 2012	20*	Louisville, KY
Frac Tanks	2000 to 2012	10*	Toledo, OH
Portable Tanks	2000 2002	48 dbbls 2,500* dbbls	Lemont, IL
Portable Tanks	2000 2002	24dbbls 2500*dbbls	Gary, IN
Portable Tanks	2001	79 dbbls 5000*dbbls	St. Louis, MO
Portable Tanks	1998 to 2003	476 dbbls 5000*dbbls	Indianapolis, IN
Barges	1995 to 2003	145,130* dbbls	Lemont, IL
Spill Trailers/Trucks	1993	1	Lemont, IL
Spill Trailers/Trucks	1993	1	St. Louis, MO
Spill Trailers/Trucks	1993	1	Indianapolis, IN
Spill Trailers/Trucks	1993	1	Louisville
Spill Trailers/Trucks	1993	1	Toledo, OH
Pumps	1995 to 2005	17	Lemont, IL
Pumps	1998 to 2000	4	Gary, IN
Pumps	1995 to 2009	26	St. Louis, MO
Pumps	1988 to 2011	11	Indianapolis, IN
Pumps	1998 to 2003	14	Louisville, KY

1.3.2 Response Equipment List and Location (Cont'd)

9. Other (e.g., Heavy Equipment, Boats and Motors) (**1.3.2.9**) - Operational Status: ____(Cont'd)

HERITAGE (Cont'd)			
Type/Model	**Year Purchased**	**Qty.**	**Storage Location**
Pumps	1998 to 2007	9	Toledo, OH
Oil/water separators	1998	1	St. Louis, MO
Carbon Units	2006	1	St. Louis, MO
Carbon Units	1999	1	Indianapolis, IN
Carbon Units	1998	6	Toledo, OH
Plate & Frame Filter Presses	1995	1	St. Louis, MO
Plate & Frame Filter Presses	1998	1	Indianapolis, IN
Utility Trucks	2001 to 2010	6	Lemont, IL
Utility Trucks	2000 to 2003	3	Gary, IN
Utility Trucks	2005 to 2010	5	Indianapolis, IN
Utility Trucks	2003 to 2008	5	Toledo, OH
Mobile Laboratory	1998	1	Indianapolis, IN
Drum Trucks	2006 to 2010	3	Lemont, IL
Drum Trucks	2005	2	Gary, IN
Drum Trucks	2007	2	Indianapolis, IN
Drum Trucks	2003	1	Toledo, OH
Bobcats	2002	1	Lemont, IL
Bobcats	2009	1	Gary, IN
Bobcats	2000	1	Indianapolis, IN
Bobcats	2006	2	Toledo, OH
Trackhoes/Loaders	1998	1	Lemont
Water Blaster	2003	1	St. Louis, MO
Water Blaster	2004	1	Indianapolis, IN
Pressure Washers	2010 to 2011	3	Lemont, IL
Pressure Washers	2010	2	Gary, IN
Pressure Washers	2009 to 2011	4	Indianapolis, IN
Pressure Washers	2010	2	Toledo, OH
Wash Down Pumps	1998	3	Lemont, IL
Wash Down Pumps	1998	1	Indianapolis, IN
Wash Down Pumps	1998	1	Toledo, OH
Lowboys	1995	1	Lemont, IL
Air Compressors	1998	2	Lemont, IL
Air Compressors	1998	2	Gary, IN
Air Compressor	2002	2	Indianapolis, IN
Air Compressor	2000	2	Toledo, OH
Generators	2000	1	Lemont, IL
Generators	2000	1	Gary, IN

1.3.2 Response Equipment List and Location (Cont'd)

9. Other (e.g., Heavy Equipment, Boats and Motors) (1.3.2.9) - Operational Status: ____(Cont'd)

HERITAGE (Cont'd)			
Type/Model	**Year Purchased**	**Qty.**	**Storage Location**
Generators	2003	2	Indianapolis, IN
Generators	2000 to 2005	3	Toledo, OH
LEL/0_2 Meters	2008	6	Lemont, IL
LEL/0_2 Meters	2008	3	Gary, IN
LEL/0_2 Meters	2004	9	Indianapolis, IN
LEL/0_2 Meters	2002	3	Toledo, OH
OVA/PID Meters	2000	1	Indianapolis, IN
OVA/PID Meters	2000	2	Toledo, OH
Radios –Explosion Proof marine band	2000	6	Lemont, IL
Radios –Explosion Proof marine band	2000	8	Indianapolis, IN

VEOLIA ES SPECIAL SERVICES			
Type/Model	**Year Purchased**	**Qty.**	**Storage Location**
Emergency Response Truck and Trailer with full equipment	2008	1	Germantown, WI
Pick-up Trucks	2000-2011	10	Germantown, WI
Vacuum Truck, 2500 gallons- 50-60 gpm w/ 4" hose	1995	1	Germantown, WI
Vacuum Trucks/Trailers*	1995-2012	10	Germantown, WI
Boom Trailers	1990-2011	4	Germantown, WI
19' foot boom boat with 115hp outboard	2001	1	Germantown, WI
12 to 16' jon boat w/ 15-25 hp outboards	1995-2010	4	Germantown, WI
Roll-off Trucks/trailer	2000-2011	3	Germantown, WI
Sealed Roll-off Boxes	1995-2010	30	Germantown, WI
Water Treatment Trailer		1	Germantown, WI
Emergency Response trailer with full equipment	2005	1	Green Bay, WI
Response Manager Trucks	2005-2008	2	Green Bay, WI
five ton stake truck	1999	1	Green Bay, WI
1 ton stake truck	2011	1	Green Bay, WI
Hydrographic survey boats	2001-2004	2	Green Bay, WI
20' boom boat with 90hp outboard	2006	1	Green Bay, WI
Boom Trailer	2004	1	Green Bay, WI
14' boat w/ 9.9 hp motor	1985	1	Green Bay, WI
zodiac boat w/40 hp motor	1993	1	Green Bay, WI

1.3.2 Response Equipment List and Location (Cont'd)

9. Other (e.g., Heavy Equipment, Boats and Motors) **(1.3.2.9)** - Operational Status: ____(Cont'd)

VEOLIA ES SPECIAL SERVICES (Cont'd)			
Type/Model	**Year Purchased**	**Qty.**	**Storage Location**
Emergency Response Trailer with full equipment	2002	1	Sheboygan, WI
Pick-up Trucks	2002-2010	5	Sheboygan, WI
Vacuum Trucks/Trailers	1990-2011	10	Sheboygan, WI
Emergency Response Truck and Trailer		1	Wausau, WI
Response Managers Truck		1	Wausau, WI
Pick-up Truck	2007	1	Wausau, WI
Vacuum trucks or trailers*	1995-2000	2	Wausau, WI
Jon Boat w/15 hr motor		1	Wausau, WI
Emergency Response Truck and Trailer	1997	1	Norway, MI
Vacuum Truck- 3000 gallon, 50-60 gpm w/ 4" hose	1998	1	Norway, MI
Roll off Truck	1973	1	Norway, MI
Sealed Roll-off Boxes- 25 yard	1973	4	Norway, MI
Frac Tank, 18,000 gallon capacity		1	Norway, MI
Emergency Response Trailer (Full Equipment)	2011	1	New Lenox, IL
Emergency Response Truck w/lift-gate- 4x4	2011	1	New Lenox, IL
Vacuum Trucks*	2011 to 2008	4	New Lenox, IL
roll-off truck	2006	1	New Lenox, IL
Sealed Roll-off Boxes		4	New Lenox, IL
18' Response Boat w/60 hp motor	2005	1	New Lenox, IL
14' jon boat- w/10 hp motor	2007	1	New Lenox, IL
Pick-up Trucks	2008-2012	6	New Lenox, IL
Emergency Response Trailer – Full Equipment	1998	1	Mitchell, IL
Emergency Response Truck 4 x 4		1	Mitchell, IL
Support Trucks	1999-2010	17	Mitchell, IL
Vacuum Trucks*	1989-2007	17	Mitchell, IL
Combination Jet/Vac Trucks	1987-1989	4	Mitchell, IL
10k+ Hydro Blasters	1994-2002	8	Mitchell, IL
Steam Pressure Washers	2004	2	Mitchell, IL
18' Boat w/40 hp motor	1996	1	Mitchell, IL
Intrinsically Safe Sewer Inspection Unit	2004	1	Mitchell, IL
Vacuum Trucks*	1989-2006	25	Dayton, OH
Jet/Vac Combination Units	2000	2	Dayton, OH
Intrinsically Safe Sewer Inspection Unit	2002	1	Dayton, OH

1.3.2 Response Equipment List and Location (Cont'd)

9. Other (e.g., Heavy Equipment, Boats and Motors) (**1.3.2.9**) - Operational Status: ____(Cont'd)

VEOLIA ES SPECIAL SERVICES (Cont'd)			
Type/Model	**Year Purchased**	**Qty.**	**Storage Location**
Support Trucks	1999-2011	32	Dayton, OH
4x4 Emergency Response truck w/lift gate	2006	1	Dayton, OH
Emergency Response Trailer (Full Equipment)	2000	1	Dayton, OH
Roll-off Trucks	1994-1996	3	Dayton, OH
Semi-Tractor/Tanker/Roll off Units*	1989-2010	12	Dayton, OH
Water Blaster Units	1990-2002	35	Dayton, OH
Frac Tanks – Avg 18,000 gallons each	1980-1984	6	Dayton, OH
Sealed Rolloff Boxes	1984-1990	30	Dayton, OH
Jon Boat w/15 hp motor	2007-2010	1	Dayton, OH

NO CO-OP IS PRESENT			
Type/Model	**Year Purchased**	**Qty.**	**Storage Location**
NONE			

Documents responsive to request:

- All worksheets and records for calculating and planning for worst case discharge scenarios as per Appendix D to Part 112

1.4.1 Hazard Identification (Cont'd)

Planning Distance for Still Water

Surface Area Covered by Oil Spill on Still Water					
A = 10^5*V^3/4*C					
	WCD vol.		Area		
	28,307,736		6.38E+09+		
Spreading Radius of the Oil Spill					
A = (Pi)R^2/2					
R =	6.37E+04	Feet			
	12.1	Miles			
Assumed wind velocity = 23 mph					
and Spill travels at the rate of 3% of wind velocity					
Therefore 23 mph x 3% = 0.69 mph					
27	hours x 0.69 mph =		18.6		
Total spill impact area					
Planning Distance:				30.7	miles

1.4.2 Vulnerability Analysis

(1) Water intakes (drinking, cooling, or other) (1.4.2.1);

Water Intake	Inland Sensitivities Atlas
Village of Glencoe – Glencoe (W544)	Indiana Tile 6
Water Plant -Winnetka (W545)	Indiana Tile 6
Winnetka Power Plant - Winnetka (W546)	Indiana Tile 6
Village of Kenilworth - Kenilworth (W547)	Indiana Tile 6
Nabil Quafisheh - Wilmette (W548, W549)	Indiana Tile 6
City of Evanston - Evanston (W555, W556, W550)	Indiana Tile 6
City of Chicago – Chicago (W553, W552)	Indiana Tile 21
Charles Pietrucha - Hammond Water Works (W27)	Indiana Tile 40
Valorie Moore - BP Products North America Incorporated (W48)	Indiana Tile 40
Valorie Moore - BP Products North America Incorporated (W47)	Indiana Tile 40
ArcelorMittal (W39, W37,W38)	Indiana Tile 40
ArcelorMittal (W54, W53)	Indiana Tile 40, Inset 40-6
East Chicago Water Department (W25)	Indiana Tile 40, Inset 40-6
Carmeuse Lime Incorporated - Carmeuse Lime Incorporated (W35)	Indiana Tile 40, Inset 40-6
D Plath - NiSource (W45)	Indiana Tile 40, Inset 40-6
Environmental Control - US Steel Corporation (W34, W31, W30)	Indiana Tile 40, Inset 40-7
Indiana-American Water Co-Borman Park WTP (W26)	Indiana Tile 40, Inset 40-7
Jeff Robinson - Indiana-American Water Co-Ogden Dunes WTP (W67)	Indiana Tile 41
Environmental Control - US Steel Corporation (W69)	Indiana Tile 41, Inset 41-6
D Plath – NiSource (W70)	Indiana Tile 41, Inset 41-7

(2) Schools (1.4.2.2);

There are no schools located within the immediate vicinity of the Facility in areas that would likely be impacted by a discharge from the refinery. The following schools are located within 1000 feet of the Lake Michigan shoreline within the entire 30 mile WCD planning distance:

1.4.2 Vulnerability Analysis (Cont'd)

(2) Schools (1.4.2.2 Cont'd);

Name	Y WGS (dec. deg.)	X WGS (dec. deg.)
Powell Elem Paideia Comm Academy	41.7606	-87.5571
Northwestern University Chicago Campus	41.8950	-87.6178
Sacred Heart Schools	41.9955	-87.6556
Mundelein College	41.9986	-87.6564
Loyola University of Chicago	41.9991	-87.6586
North Shore School	42.0138	-87.6623
Northwestern University	42.0565	-87.6752

(3) Medical Facilities (1.4.2.3);

There are no medical facilities located within the immediate vicinity of the Facility in areas that would likely be impacted by a discharge from the refinery. The following schools are located within 1000 feet of the Lake Michigan shoreline within the entire 30 mile WCD planning distance:

Name	Y WGS (dec. deg.)	X WGS (dec. deg.)
La Rabida Children's Hospital and Research Center	41.7775	-87.5711
Prentice Women's Hospital and Maternity Center	41.8955	-87.6192

(4) Residential areas (1.4.2.4)

The only major area potentially at risk for an oil spill at the refinery is the area bound on the south by 129th Street, on the east by Schrage Avenue, the north by 125th, and west by New York Avenue and the adjoining Calumet College as well as the historic Marktown neighborhood immediately east of the facility. Catastrophic failure of the adjacent tanks in the Indiana and Lake George Tank Fields could inundate areas of these sections of Hammond and Whiting. In addition, group I or II oils entering the sewers in this area could cause health and safety risks for residents in other areas served by this sewer system. The Hammond Wastewater Treatment Plant could also be affected.

(5) Businesses (1.4.2.5);

The immediate area surrounding the Facility is for the most part commercialized. The listing of businesses in the area is extensive and not included here for update purposes.

Any evacuation efforts for these areas will be coordinated with the local emergency assistance agencies (police department, fire department, etc.).

1.4.2 Vulnerability Analysis (Cont'd)

(6) Wetlands or other sensitive environments (1.4.2.6);

Flora and fauna are always present and are sensitive to the effects of a pollution incident. All environmental areas deserve protection from pollution, but they must be prioritized during a response to protect the most sensitive and susceptible areas to pollution. Based on the U.S. Fish and Wildlife Service's National Wetlands Inventory, the nearest wetlands (Amoco Park) are located less than 0.5 miles north of J&L Tank Farm and Tank 3917. For overland travel, sorbent boom and earthen berms are options to stop the spread of the oil and deploy boom at edge of wetlands to prevent oil from spreading into the wetlands. If manual recovery cause greater harm, then bioremediation and monitoring may be the best option.

(7) Fish and wildlife (1.4.2.7);

The terrestrial resources immediately along and surrounding the Indiana Harbor canal are generally very limited in diversity and abundance due to the urban/industrial nature of the area and the lack of habitat. The sparse vegetation that is present tends to be weedy and pioneering species.

The wildlife species present are primarily small mammals and birds, which are typical of urban, and waterfront areas.

During a response situation, the USFWS and applicable state agencies should be contacted for information regarding wetlands and other sensitive environments. Upon contact, the agencies will be able to:

Identify and establish priorities for fish and wildlife, wetlands, and other sensitive environments requiring protection from any direct or indirect effects from a discharge.

Identify potential environmental effects on fish and wildlife, wetlands, and other sensitive environments resulting from removal actions or countermeasures.

(8) Lakes and streams (1.4.2.8);

The primary surface water body in the vicinity of the facility that is vulnerable to a discharge is Lake Michigan due to the location of the facility's wastewater treatment system and plant outfalls along the shoreline. Lake Michigan has a number of sensitive resources within the planning distance including surface water intakes, residential and business areas, schools and medical facilities, recreational areas such as parks, beaches and marinas, and various sensitive ecological species including listed fish, wildlife, flora and fauna. These resources and their locations within the planning distance are discussed in Section 1.5.1.2. As described in Section 1.5, there are two scenarios where a spill could enter Lake Michigan for small, medium and worst case discharges of various oil types. The most likely scenario would be a spill into the process sewer system that reaches the wastewater treatment system followed by failure of the system and separator, resulting in discharge out of the permitted process outfall into Lake Michigan. There are a number of safeguards and controls that make such a scenario highly unlikely. Even less likely would be a breach or failure in the cooling water system that becomes contaminated with oils and the return flow is discharged through the permitted outfall along the Lake shore. A second scenario for a spill reaching Lake Michigan as discussed in Section 1.5 would be a spill into the barge canal that is unable to be contained and, due to highly unusual weather conditions, the spill reaches Lake Michigan. Similar sensitive resources would be vulnerable to a spill in either scenario.

The State of Indiana presently classifies the Indiana Harbor Canal and Grand Calumet River system as suitable for "limited aquatic life". This classification acknowledges the degraded conditions of the aquatic environment, due to the extensive amount of urban-industrial development throughout the system. Pollutant discharges from these developments have impacted area water and sediment quality and have limited the aquatic communities in the system. Biological surveys in the past have reported a virtual absence of life in the canal and limited communities near the mouth of the harbor. The canal has permanent boom deployed and BP will supply this boom to prevent oil from reaching more sensitive habitats.

1.4.2 Vulnerability Analysis (Cont'd)

(9) Endangered flora and fauna (1.4.2.9);

The U.S. Fish and Wildlife Service list two Federally Endangered Species (Indiana Bat and Karner Blue Butterfly), one Federally Threatened Species (Pitcher's Thistle) and four Candidate Species (Forked Aster, Heart-leaved Plantain, Fragrant Sumac, and Prairie Fame Flower) as having a range that extends into the general vicinity of the refinery. The Indiana Dunes National Lakeshore, with other dune areas in Northwest Indiana, contain prime pitchers thistle habitat" (EPA 2014) which are located in Porter County approximately 20 miles east of the refinery. Lake Sturgeon is the only fish on the Indiana County Endangered, Threatened, and Rare Species List in Lake County (Indiana DNR 2013) and has been found in the area during 316(a) thermal impact studies (EA Engineering, 2012).

A number of avian species migrate through the area in the spring and fall. The Lake Michigan shoreline is a major flyway for loons, grebes, waterfowl, raptors and shorebirds. Few bird species have been observed foraging or resting on the Indiana Harbor Canal. This may be due to a number of factors including disturbance from boat traffic, low diversity and abundance of invertebrates, and lack of shallow water. . Potential avian species seen in the area are peregrine falcon, wood duck, mallard, double-crested cormorant, black-crowned night-heron, great blue heron, green-backed heron, tree swallow, barn swallow, common merganser, herring gull, red-winged blackbird, and great egret. (US FWS 2006)

(10) Recreational areas (1.4.2.10);

There are several city and county parks in the vicinity of the refinery. The Indiana Dunes National Lakeshore is about 20 miles east of the refinery.

The nearest public lakefront areas are west of the refinery at Whiting Municipal Park and Wihala Beach County Park, next to the refinery, and at Lakefront Park in Hammond. Lakefront Park has a marina with 800 slips. Shoreline recreational areas are also located at Dominion's Stateline Station and NIPSCO's Dean H. Mitchell Station (IDEM, 1988)

Jeorse Park is located east and south of the refinery, and separated from the refinery by the Indiana Harbor structure itself. This park consists of 36 acres with 500 feet of sand beach lakefront at the southeast end. Adjacent to the park is the Robert A. Patrick Marina. This marina contains approximately 285 slips.

The only inland park possibly affected by a spill at the refinery is Amoco Park located along 129th Street between New York Avenue and White Oak Avenue, adjacent to the Lake George Branch of the canal and Indianapolis Blvd.

Any evacuation efforts for these areas will be coordinated with the local emergency assistance agencies (police department, fire department, etc.). The media could also be used to issue public warnings if appropriate.

(11) Transportation routes (air, land, and water - 1.4.2.11);

Shipping Routes – A spill for the refinery could possibly affect two types of shipping routes. A spill at the boat docks would affect shipping on the Indiana Harbor Canal and the Lake George Branch. Any spill at the dock immediately effects Safety Kleen's marine operations because the initial actions are to boom across the canal to contain the oil. Safety Kleen is located down stream of the Refinery dock. This action would immediately stop any incoming or outgoing traffic to their dock. Should oil move down stream of the Refinery dock, it would begin to effect dock operations at LTV and Inland Steel. However, the current in the canal is very slow and movement of oil in the canal tends to be driven by the wind and stay very localized. Traffic on these transportation routes will be handled by the local law enforcement.

1.4.2 Vulnerability Analysis (Cont'd)

Local Roads – The Facility is bordered by many public roads and a catastrophic failure of some tanks could affect these roads. The roads that could be affected are:

Indianapolis Blvd.	129th Street
Calumet Avenue	Cline Avenue
Standard Avenue	121st Street
Schrage Avenue	Front Street
Riley Road	Dickey Road

Traffic on these public roads will be controlled by the local law enforcement offices.

1.4.2 Vulnerability Analysis (Cont'd)

(12) Utilities (1.4.2.12);

There is not any drinking water intakes indicated on the NOAA Sensitivity of Coastal Environments and Wildlife to Spilled Oil maps, however, this power generating station does have cooling water intakes. The Bailly Power Generating Station is located approximately 18 miles east of the refinery along the Lake Michigan shoreline. This power station is equipped with a drinking water intake. The Winnetka Power Station is the only other utility located within the planning distance and is approximately 30 miles away.

Any evacuation efforts necessary for these areas will be coordinated with the local emergency assistance agencies (police department, fire department, etc.), State Police, U.S. Coast Guard, and other agencies as the situation demands.

(13) Other areas of economic importance (e.g., beaches, marinas – 1.4.2.13) including terrestrially sensitive environments, aquatic environments, and unique habitats.

A spill to Lake Michigan could affect shipping at the two major harbors at the south end of Lake Michigan. First, to be effected would be the Indiana Harbor due to its close proximity to the Refinery followed by Calumet Harbor. Calumet Harbor is located northwest of the refinery and is less likely to be effected by a spill due to the prevailing western winds in this area.

Any evacuation efforts necessary for these areas will be coordinated with the local emergency assistance agencies (police department, fire department, etc.), State Police, U.S. Coast Guard, and other agencies as the situation demands.

Documents responsive to request:

- All reports of hazard assessment and evaluation to human health and the environment from the March 24, 2014 oil discharge, or any other report oil discharge from December 1, 2010 to June 30, 2016, as per 40 CFR § 112.20(h)(1)(ix)(F) and (J)

1.4.4 Facility Reportable Oil Spill History

Note: The following reports represent all reportable oil spills to navigable water.

Incident No.	1083512
Date of discharge (1.4.4.1)	5/20/2014
Location of discharge	Indianapolis Blvd (eastern-most lane, between north end of South Tank Field Annex and Gate 18)
Discharge Cause(s) (1.4.4.2)	Heavy rain event (and high water table)
Material (s) discharged (1.4.4.3)	Weathered ground oil
Amount discharged (1.4.4.4)	1.3 gallons
Amount of discharge that reached navigable waters (1.4.4.5)	None observed; release
Amount Recovered	0.3 gallons
Effectiveness and capacity of secondary containment (1.4.4.6)	NA
Clean-up actions taken (1.4.4.7)	Lane closure to allow vacuuming of water + oil reaching surface; bird baths at (5) roadside storm sewer catch basins; Badger trucks to recover solids.
Steps taken to reduce possibility of recurrence (1.4.4.8)	Vacuuming of South Tank Field and South Tank Field Annex; W ell-point injection dewatering effort planning.
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Discharged from historical subsurface plume of ground oil (size currently not known).
Enforcement Actions (1.4.4.10)	none
Effectiveness of monitoring equipment (1.4.4.11)	NA
Description of how spill was detected (1.4.4.12)	Contractor driving along Indianapolis Blvd noticed oil in a pothole (with oiled tire marks nearby), and notified BP Security.

Incident No.	1082253
Date of discharge (1.4.4.1)	5/10/2014
Location of discharge	Indiana Harbor Ship Canal
Discharge Cause(s) (1.4.4.2)	Heavy rain event
Material (s) discharged (1.4.4.3)	Stormwater discharge possible sheen
Amount discharged (1.4.4.4)	sheen
Amount of discharge that reached navigable waters (1.4.4.5)	sheen
Amount Recovered	none
Effectiveness and capacity of secondary containment (1.4.4.6)	NA
Clean-up actions taken (1.4.4.7)	vac trucks deployed
Steps taken to reduce possibility of recurrence (1.4.4.8)	bermed up dock edge
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	NA
Enforcement Actions (1.4.4.10)	none
Effectiveness of monitoring equipment (1.4.4.11)	NA
Description of how spill was detected (1.4.4.12)	found during storm water audit with EPA

1.4.4 Facility Reportable Oil Spill History (Cont'd)

Incident No.	1077610
Date of discharge (1.4.4.1)	3/24/2014
Location of discharge	Outfall 002 OTCW Lake Michigan
Discharge Cause(s) (1.4.4.2)	Upset at 12 PS desalters temp water line
Material (s) discharged (1.4.4.3)	Crude oil
Amount discharged (1.4.4.4)	15-39 bbls
Amount of discharge that reached navigable waters (1.4.4.5)	15-39 bbls
Amount Recovered	15-39 bbls
Effectiveness and capacity of secondary containment (1.4.4.6)	NA
Clean-up actions taken (1.4.4.7)	Oil boom deployed, vac trucks and cleaning crew
Steps taken to reduce possibility of recurrence (1.4.4.8)	Removed temporary equipment and tie in
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	6.7 million gallons
Enforcement Actions (1.4.4.10)	none
Effectiveness of monitoring equipment (1.4.4.11)	Effective monitoring
Description of how spill was detected (1.4.4.12)	oil monitor alarm and operations rounds

Incident No.	942321
Date of discharge (1.4.4.1)	May 31, 2010
Location of discharge	Outfall 001
Discharge Cause(s) (1.4.4.2)	Heavy rain
Material (s) discharged (1.4.4.3)	Ground oil
Amount discharged (1.4.4.4)	2 ounces
Amount of discharge that reached navigable waters (1.4.4.5)	2 ounces
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	

1.4.4 Facility Reportable Oil Spill History (Cont'd)

Incident No.	932811
Date of discharge (1.4.4.1)	March 2, 2010
Location of discharge	Outfall 001
Discharge Cause(s) (1.4.4.2)	Material flow from decommissioned channel
Material (s) discharged (1.4.4.3)	Unknown oil
Amount discharged (1.4.4.4)	1 ounce
Amount of discharge that reached navigable waters (1.4.4.5)	1 ounce
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable
Clean-up actions taken (1.4.4.7)	Unknown
Steps taken to reduce possibility of recurrence (1.4.4.8)	Monitoring/Maintenance
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Not applicable
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Unknown
Description of how spill was detected (1.4.4.12)	Visual observation

Incident No.	928661
Date of discharge (1.4.4.1)	January 15, 2010
Location of discharge	Canal
Discharge Cause(s) (1.4.4.2)	Line leak
Material (s) discharged (1.4.4.3)	Fuel oil
Amount discharged (1.4.4.4)	1 gallon
Amount of discharge that reached navigable waters (1.4.4.5)	1 gallon
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	

1.4.4 Facility Reportable Oil Spill History (Cont'd)

Incident No.	883665
Date of discharge (1.4.4.1)	September 13, 2008
Location of discharge	Process sewer
Discharge Cause(s) (1.4.4.2)	Record heavy rains
Material (s) discharged (1.4.4.3)	Slop oil
Amount discharged (1.4.4.4)	1 gallon
Amount of discharge that reached navigable waters (1.4.4.5)	1 gallon
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	

Incident No.	875258
Date of discharge (1.4.4.1)	June 25, 2008
Location of discharge	Outfall 001
Discharge Cause(s) (1.4.4.2)	Breach between 7 Separator and Outfall
Material (s) discharged (1.4.4.3)	Slop oil
Amount discharged (1.4.4.4)	< 1 pint
Amount of discharge that reached navigable waters (1.4.4.5)	< 1 pint
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable
Clean-up actions taken (1.4.4.7)	Unknown
Steps taken to reduce possibility of recurrence (1.4.4.8)	Monitoring/Maintenance
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Not applicable
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Unknown
Description of how spill was detected (1.4.4.12)	Visual observation

1.4.4 Facility Reportable Oil Spill History (Cont'd)

Incident No.	841657
Date of discharge (1.4.4.1)	July 10, 2007
Location of discharge	Process sewer
Discharge Cause(s) (1.4.4.2)	Temporary cross connection
Material (s) discharged (1.4.4.3)	Slop oil
Amount discharged (1.4.4.4)	< 1 gallon
Amount of discharge that reached navigable waters (1.4.4.5)	< 1 gallon
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	

Incident No.	825758
Date of discharge (1.4.4.1)	February 7, 2007
Location of discharge	Heat Exchanger
Discharge Cause(s) (1.4.4.2)	Exchanger leak
Material (s) discharged (1.4.4.3)	Lube oil
Amount discharged (1.4.4.4)	1 pint
Amount of discharge that reached navigable waters (1.4.4.5)	1 pint
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	

1.4.4 Facility Reportable Oil Spill History (Cont'd)

Incident No.	825638
Date of discharge (1.4.4.1)	February 6, 2007
Location of discharge	Outfall
Discharge Cause(s) (1.4.4.2)	Waste Water Treatment Unit upset
Material (s) discharged (1.4.4.3)	Unknown Oil
Amount discharged (1.4.4.4)	1 gallon
Amount of discharge that reached navigable waters (1.4.4.5)	1 gallon
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	

Incident No.	813444
Date of discharge (1.4.4.1)	October 2, 2006
Location of discharge	Process sewer
Discharge Cause(s) (1.4.4.2)	Temporary cross connection
Material (s) discharged (1.4.4.3)	Slop oil
Amount discharged (1.4.4.4)	< 1 gallon
Amount of discharge that reached navigable waters (1.4.4.5)	< 1 gallon
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	

1.4.4 Facility Reportable Oil Spill History (Cont'd)

Incident No.	806527, 805784, 800186
Date of discharge (1.4.4.1)	August 3, 2006; July 27, 2006; June 10, 2006
Location of discharge	Process sewer
Discharge Cause(s) (1.4.4.2)	Historic cross connection
Material (s) discharged (1.4.4.3)	Slop oil
Amount discharged (1.4.4.4)	1 gallon; 1 quart; 20 gallons
Amount of discharge that reached navigable waters (1.4.4.5)	1 gallon; 1 quart; 20 gallons
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable
Clean-up actions taken (1.4.4.7)	Unknown
Steps taken to reduce possibility of recurrence (1.4.4.8)	Eliminated cross connection
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Not applicable
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Unknown
Description of how spill was detected (1.4.4.12)	Visual observation

Incident No.	788770
Date of discharge (1.4.4.1)	February 21, 2006
Location of discharge	Canal Flange
Discharge Cause(s) (1.4.4.2)	leak OilW
Material (s) discharged (1.4.4.3)	ater mix
Amount discharged (1.4.4.4)	< 1 gallon
Amount of discharge that reached navigable waters (1.4.4.5)	< 1 gallon
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	

1.4.4 Facility Reportable Oil Spill History (Cont'd)

Incident No.	741437
Date of discharge (1.4.4.1)	August 10, 2004
Location of discharge	Outfall 002
Discharge Cause(s) (1.4.4.2)	Exchanger leak
Material (s) discharged (1.4.4.3)	Unknown oil
Amount discharged (1.4.4.4)	< 1 gallon
Amount of discharge that reached navigable waters (1.4.4.5)	< 1 gallon
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	

Incident No.	708671
Date of discharge (1.4.4.1)	December 21, 2003
Location of discharge	Canal
Discharge Cause(s) (1.4.4.2)	Bushing failure
Material (s) discharged (1.4.4.3)	Gas oil
Amount discharged (1.4.4.4)	3 barrels
Amount of discharge that reached navigable waters (1.4.4.5)	3 barrels
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	

1.4.4 Facility Reportable Oil Spill History (Cont'd)

Incident No.	652084
Date of discharge (1.4.4.1)	July 27, 2003
Location of discharge	Process sewer
Discharge Cause(s) (1.4.4.2)	Heavy rain
Material (s) discharged (1.4.4.3)	Slop oil
Amount discharged (1.4.4.4)	42 barrels
Amount of discharge that reached navigable waters (1.4.4.5)	< 5 gallons
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	

Incident No.	650059
Date of discharge (1.4.4.1)	July 6, 2003
Location of discharge	Canal
Discharge Cause(s) (1.4.4.2)	Heavy rain causing containment pad overflow
Material (s) discharged (1.4.4.3)	Decanted oil
Amount discharged (1.4.4.4)	< 1 gallon
Amount of discharge that reached navigable waters (1.4.4.5)	< 1 gallon
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	

1.4.4 Facility Reportable Oil Spill History (Cont'd)

Incident No.	595454
Date of discharge (1.4.4.1)	March 2, 2002
Location of discharge	Heat exchanger
Discharge Cause(s) (1.4.4.2)	Heat exchanger leak
Material (s) discharged (1.4.4.3)	Unknown oil
Amount discharged (1.4.4.4)	< 1 quart
Amount of discharge that reached navigable waters (1.4.4.5)	< 1 quart
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	

Incident No.	412900
Date of discharge (1.4.4.1)	November 22, 1997
Location of discharge	Heat exchanger
Discharge Cause(s) (1.4.4.2)	Heat exchanger leak
Material (s) discharged (1.4.4.3)	Unknown oil
Amount discharged (1.4.4.4)	Unknown
Amount of discharge that reached navigable waters (1.4.4.5)	Unknown
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	

1.4.4 Facility Reportable Oil Spill History (Cont'd)

Incident No.	407071
Date of discharge (1.4.4.1)	October 11, 1997
Location of discharge	11PS pumpout system
Discharge Cause(s) (1.4.4.2)	OTCW system leak
Material (s) discharged (1.4.4.3)	Ground oil
Amount discharged (1.4.4.4)	3000 gallons
Amount of discharge that reached navigable waters (1.4.4.5)	< 2 gallons
Amount Recovered	~2998 gallon
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable
Clean-up actions taken (1.4.4.7)	Unknown
Steps taken to reduce possibility of recurrence (1.4.4.8)	Monitoring/Maintenance
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Not applicable
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Unknown
Description of how spill was detected (1.4.4.12)	Visual observation

Incident No.	406248
Date of discharge (1.4.4.1)	October 4, 1997
Location of discharge	Vacuum truck
Discharge Cause(s) (1.4.4.2)	Truck leak
Material (s) discharged (1.4.4.3)	Decanted oil
Amount discharged (1.4.4.4)	5 gallons
Amount of discharge that reached navigable waters (1.4.4.5)	< 1 gallon
Amount Recovered	~ 4 gallon
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	

1.4.4 Facility Reportable Oil Spill History (Cont'd)

Incident No.	397791
Date of discharge (1.4.4.1)	August 3, 1997
Location of discharge	Canal
Discharge Cause(s) (1.4.4.2)	Fuel hose drip
Material (s) discharged (1.4.4.3)	Lube oil
Amount discharged (1.4.4.4)	< 1 pint
Amount of discharge that reached navigable waters (1.4.4.5)	< 1 pint
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable
Clean-up actions taken (1.4.4.7)	Unknown
Steps taken to reduce possibility of recurrence (1.4.4.8)	Monitoring/Maintenance
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Not applicable
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Unknown
Description of how spill was detected (1.4.4.12)	Visual observation

Incident No.	396856
Date of discharge (1.4.4.1)	July 27, 1997
Location of discharge	Sump
Discharge Cause(s) (1.4.4.2)	Sump pump failed in heavy rain
Material (s) discharged (1.4.4.3)	Lube oil
Amount discharged (1.4.4.4)	10-15 gallons
Amount of discharge that reached navigable waters (1.4.4.5)	10-15 gallons
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	

1.4.4 Facility Reportable Oil Spill History (Cont'd)

Incident No.	634622
Date of discharge (1.4.4.1)	January 21, 2003
Location of discharge	Outfall
Discharge Cause(s) (1.4.4.2)	Upset in the water treatment plant
Material (s) discharged (1.4.4.3)	Crude
Amount discharged (1.4.4.4)	50 Gallons
Amount of discharge that reached navigable waters (1.4.4.5)	50 Gallons
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable
Clean-up actions taken (1.4.4.7)	Unknown
Steps taken to reduce possibility of recurrence (1.4.4.8)	Monitoring/Maintenance
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Not applicable
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Unknown
Description of how spill was detected (1.4.4.12)	Visual observation

Incident No.	474879
Date of discharge (1.4.4.1)	February 23, 1999
Location of discharge	Coker
Discharge Cause(s) (1.4.4.2)	Relief valve
Material (s) discharged (1.4.4.3)	Gas oil
Amount discharged (1.4.4.4)	158 Barrels
Amount of discharge that reached navigable waters (1.4.4.5)	9 Gallons
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	

1.4.4 Facility Reportable Oil Spill History (Cont'd)

Incident No.	441087
Date of discharge (1.4.4.1)	June 11, 1998
Location of discharge	Canal
Discharge Cause(s) (1.4.4.2)	Heavy rains
Material (s) discharged (1.4.4.3)	Unknown oil
Amount discharged (1.4.4.4)	3.4 Gallons
Amount of discharge that reached navigable waters (1.4.4.5)	3.4 Gallons
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	

Incident No.	390592
Date of discharge (1.4.4.1)	June 10, 1997
Location of discharge	Transfer line
Discharge Cause(s) (1.4.4.2)	Flushing line
Material (s) discharged (1.4.4.3)	Decant oil
Amount discharged (1.4.4.4)	230 Gallons
Amount of discharge that reached navigable waters (1.4.4.5)	230 Gallons
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	

1.4.4 Facility Reportable Oil Spill History (Cont'd)

Incident No.	394595
Date of discharge (1.4.4.1)	July 11, 1997
Location of discharge	Heat exchanger
Discharge Cause(s) (1.4.4.2)	Heat exchanger leak
Material (s) discharged (1.4.4.3)	Unknown oil
Amount discharged (1.4.4.4)	3 Gallons
Amount of discharge that reached navigable waters (1.4.4.5)	3 Gallons
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable
Clean-up actions taken (1.4.4.7)	Unknown
Steps taken to reduce possibility of recurrence (1.4.4.8)	Monitoring/Maintenance
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Not applicable
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Unknown
Description of how spill was detected (1.4.4.12)	Visual observation

Incident No.	395632
Date of discharge (1.4.4.1)	July 18, 1997
Location of discharge	Process sewer
Discharge Cause(s) (1.4.4.2)	Heavy rains
Material (s) discharged (1.4.4.3)	Petroleum hydrocarbons
Amount discharged (1.4.4.4)	2 Gallons
Amount of discharge that reached navigable waters (1.4.4.5)	2 Gallons
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	

1.4.4 Facility Reportable Oil Spill History (Cont'd)

Incident No.	403482
Date of discharge (1.4.4.1)	September 13, 1997
Location of discharge	Distillate oil exchanger
Discharge Cause(s) (1.4.4.2)	Unknown
Material (s) discharged (1.4.4.3)	Distillate
Amount discharged (1.4.4.4)	1 Gallon
Amount of discharge that reached navigable waters (1.4.4.5)	1 Gallon
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	

Incident No.	360211
Date of discharge (1.4.4.1)	September 7, 1996
Location of discharge	Cooling system
Discharge Cause(s) (1.4.4.2)	Cooling system discharge
Material (s) discharged (1.4.4.3)	Unknown oil
Amount discharged (1.4.4.4)	0.3 Gallon
Amount of discharge that reached navigable waters (1.4.4.5)	0.3 Gallon
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	

1.4.4 Facility Reportable Oil Spill History (Cont'd)

Incident No.	363560
Date of discharge (1.4.4.1)	October 7, 1996
Location of discharge	Outfall #002
Discharge Cause(s) (1.4.4.2)	Unknown
Material (s) discharged (1.4.4.3)	Naphtha
Amount discharged (1.4.4.4)	10 Gallons
Amount of discharge that reached navigable waters (1.4.4.5)	10 Gallons
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	

Incident No.	165513
Date of discharge (1.4.4.1)	April 3, 1993
Location of discharge	Process unit
Discharge Cause(s) (1.4.4.2)	Check valve
Material (s) discharged (1.4.4.3)	Gas oil
Amount discharged (1.4.4.4)	1 Gallon
Amount of discharge that reached navigable waters (1.4.4.5)	1 Gallon
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	

Incident No.	35717
Date of discharge (1.4.4.1)	August 16, 1990
Location of discharge	Heat exchanger
Discharge Cause(s) (1.4.4.2)	Corrosion
Material (s) discharged (1.4.4.3)	Gas oil
Amount discharged (1.4.4.4)	2 Gallons
Amount of discharge that reached navigable waters (1.4.4.5)	2 Gallons
Amount Recovered	Unknown
Effectiveness and capacity of secondary containment (1.4.4.6)	Not applicable Unknown
Clean-up actions taken (1.4.4.7)	Monitoring/Maintenance
Steps taken to reduce possibility of recurrence (1.4.4.8)	Not applicable
Total storage capacity of the tank (s) impoundment(s) from which the materials discharged. (1.4.4.9)	Unknown
Enforcement Actions (1.4.4.10)	Unknown
Effectiveness of monitoring equipment (1.4.4.11)	Visual observation
Description of how spill was detected (1.4.4.12)	